

Claims

1. A smart card reader module comprising:
a biasing member to eject a smart card inserted into the module, and
5 a locking member to retain an inserted smart card in the module,
wherein the biasing member is operable to eject a smart card from the module on
release of the locking member.
2. A reader module according to claim 1, including a chassis having a chamber
10 therein and a slot to enable insertion of a smart card into the chamber.
3. A reader module according to claim 1, wherein the biasing member includes
an actuator and a spring, the arrangement being such that a partially inserted card
contacts one end of the actuator, further insertion of the card causing the actuator
15 to move with the card and thereby compress the spring to bias the card in a
direction against the direction of insertion.
4. A reader module according to claim 3, wherein the actuator and spring are
disposed in an elongate cavity in the chassis, said one end of the actuator protruding
20 from the cavity into the chamber.
5. A reader module according to claim 4, wherein the spring is a compression
spring.
- 25 6. A reader module according to claim 1, wherein the locking member is
mounted to a resilient latch arm.
7. A reader module according to claim 6, wherein the latch arm is resiliently
deformed in response to the pressure of a card on the locking member during
30 insertion, the locking member being deflected by the card to allow insertion thereof
into the chamber.

8. A reader module according to claim 7, wherein the resilience of the latch arm returns the locking member to its original position when the pressure applied thereto by a card is removed.

5 9. A reader module according to claim 6, wherein the locking member comprises a release button and a card engaging arm extending laterally therefrom into the chamber.

10 10. A reader module according to claim 9, wherein the release button and the card engaging arm are unitary.

11. A reader module according to claim 9, wherein the locking member is deflected in response to pressure of a card on a leading edge of the card engaging arm during insertion.

15 12. A reader module according to claim 11, wherein the locking member is positioned in a cut out in the chassis.

20 13. A reader module according to claim 11, wherein the leading edge of the card engaging arm to which pressure is applied by a card is bevelled such that the card deflects the card engaging arm against the bias provided by the resiliently deformable latch arm to allow the card to pass over the card engaging arm during insertion.

25 14. A reader module according to claim 11, wherein the module is configured such that when a card has been fully inserted, it clears the card engaging arm, the resilience of the latch arm causing the locking member to return to its original position such that the card is retained in the module by the locking member.

30 15. A reader module according to claim 11, including a smart card having a chamfered corner portion, the card engaging portion having an angled card engaging face configured such that when the card is inserted and the chamfered corner clears the card engaging arm, the locking member returns to its original

position such that the angled card engaging face engages the chamfered corner to lock the card in the module, the arrangement being such that the card does not clear the card engaging arm when inserted in any other orientation.

5 16. A reader module according to claim 15, wherein the smart card is a subscriber identification module (SIM).

17. A reader module according to claim 11, configured such that the resilient latch arm is deformed in response to pressure on the button to deflect the card
10 engaging arm out of the chamber thereby releasing the card from the module.

18. A reader module according to claim 17, wherein the biasing member partially ejects the card from the module on actuation of the button.

15 19. A reader module according to claim 6, including a cover plate mounted on the chassis.

20. A reader module according to claim 19, wherein the latch arm is integral with the cover plate.
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21. A reader module according to claim 1, wherein the chassis includes terminals for connection with corresponding terminals in an inserted smart card.

22. A reader module according to claim 1, including mounts for mounting the
25 module to an electronic device.

23. An electronic device incorporating a smart card reader module according to claim 1.

30 24. A mobile telephone communications device incorporating a smart card reader module according to claim 1.

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25. A mobile telephone communications device according to claim 25, including a casing and a battery pack, a smart card being inserted into the module through an opening in the casing.

5 26. A mobile telephone communications device according to claim 25, wherein the battery pack blocks the opening when fitted and prevents release of an inserted card due to inadvertent operation of the locking member.

10 27. A mobile telephone communications device according to claim 25, wherein the locking member protrudes through the casing.

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